



Woman With Ptosis

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Case Presentation

An 87-year-old woman, with a medical history of type 2 diabetes mellitus, hypertension, and dementia, reported right ptosis and ophthalmoplegia for 6 days. On arrival at the emergency department (ED), the patient was alert and oriented without acute distress. Her body temperature was 35.7°C, her heart rate was 82 beats/min, her respiratory rate was 16 breaths/min, and her blood pressure was 147/66 mm Hg. Tracing back her history, the patient had chronic nasal congestion for 1 year. There was no fever and no headache. Neurological examination showed paralysis of the right oculomotor nerve, presenting with right eye ptosis, mydriasis, and outer-down position. The blood laboratory results were unremarkable. Cranial computed tomography (CT) revealed a heterogeneous mass with calcifications in the right maxillary

and left sphenoid sinuses with bony erosion (Fig. 1). Subsequently, contrast-enhanced magnetic resonance imaging (MRI) was performed, which showed a hypointense lesion with peripheral enhancement over the left sphenoid, right maxillary, right ethmoid sinuses, and compression of the right inferior rectus muscle (Fig. 2). After surgical debridement was performed, the pathology report of the specimen revealed aspergillosis. Antibiotics were discontinued and anti-fungal agents were started. After 1 month after the initial treatment passed, she was able to the right eye halfway.

Discussion

Invasive sino-orbital aspergillosis (ISOA) is a rare but usually fatal opportunistic infection. It is caused by infection of the paranasal sinuses that ex-

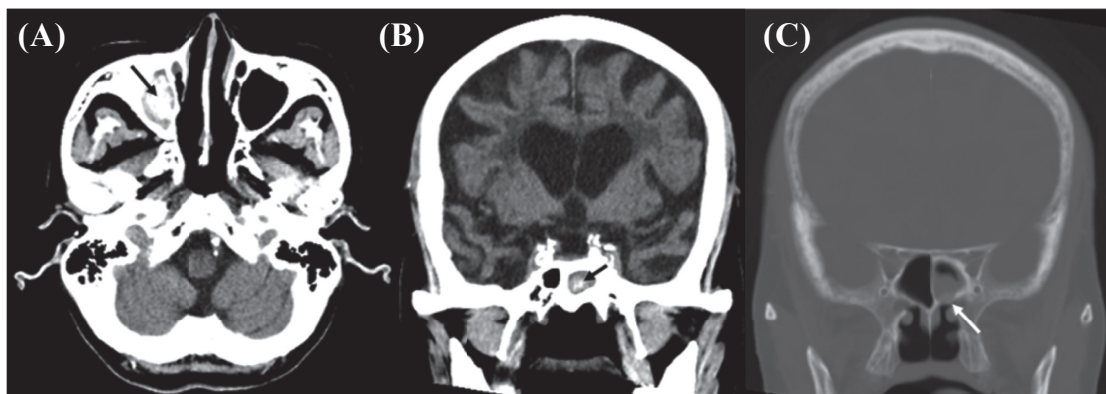


Fig. 1. (A) Axial and (B) coronal computed tomography (CT) shows heterogeneous lesions with calcification in the right maxillary sinus and the left sphenoid sinus (black arrow). (C) Axial CT of the bone window shows the left sphenoid bony erosion (white arrow).

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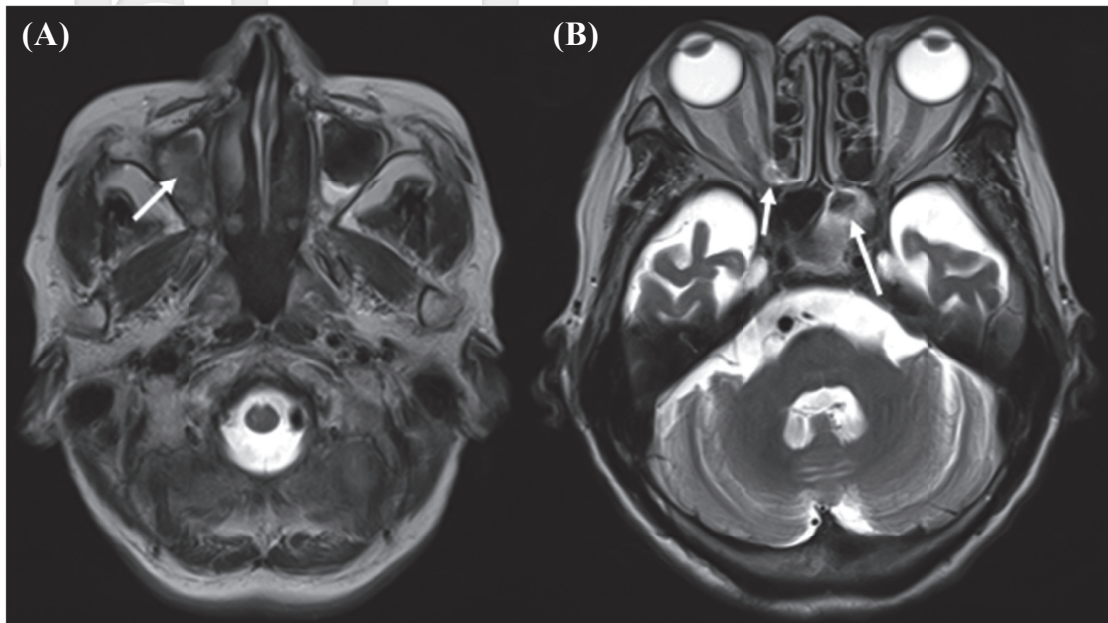


Fig. 2. (A) Magnetic resonance imaging shows a hypointense lesion with peripheral enhancement in the right maxillary (arrow), (B) the left sphenoid sinus (long arrow), and the right ethmoid sinus with the right inferior rectus muscle compression (short arrow).

tends into the orbit. The most common pathogens are *Aspergillus fumigatus*, responsible for 90% of cases, and other species such as *A. terreus*, *A. flavus*, and *A. niger*.¹ The maxillary and ethmoid sinuses are the most frequently affected in *Aspergillus*-related diseases.² Immunocompromised patients are mainly at risk, and the other risk factors include diabetes mellitus, corticosteroid use, Marijuana smoking, prosthetic devices, and trauma.^{2,3} The clinical features of ISOA vary depending on the disease entity, and it could present with ptosis, retrobulbar pain, ophthalmoplegia, proptosis, and optic neuropathy. CT and MRI are useful diagnostic tools. The typical CT image of the aspergillosis condition shows isodense, heterogeneous lesions involving the paranasal sinuses with calcification and bony erosion. Although CT scan is quick and effective and more sensitive than MRI for detecting bony erosion, the inflammatory of MRI signal can provide more information of tissue and cranial nerve involvement. The mainstay treatment of ISOA involves surgical debridement and combined use with systemic antifungal agents.² A previous study indicated that the decision of surgical debridement is best based on the section of the orbit that is involved. Adequate orbital debridement was suggested if the posterior orbit and apex are uninvolved. In contrast,

for posterior orbital involvement, particularly with extension to the apex, a low threshold for exenteration is necessary.⁴

In ED, ISOA should be considered for immunocompromised patients with coexist nasal and eye symptoms. Although ISOA is uncommon, once it is suspected, antibiotics and steroids should be discontinued because they could worsen the infection.

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